

BEAM	□
CATCH BASIN	—
DRAIN LINE	—
SEWER MANHOLE	⊙
ELECTRIC LINE	—
FENCE	○
GAS LINE	○
GAS GATE	⊗
CURB	≡
GUARD POST	⊙
HANDICAP PARKING SPACE	♿
HYDRANT	⊗
LIGHTPOST	⊙
NUMBER OF PARKING SPACE	⑤
OBSERVATION WELL	⊙
SEWER EDGE	—
SEWER LINE	—
SIGN	5
SEWER MANHOLE	⊙
TELEPHONE LINE	—
UTILITY MANHOLE	⊙
UTILITY POLE	⊙
WATER GATE	⊗
WATER LINE	—



<u>CODE</u>	<u>DESCRIPTION</u>
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DETAIL

WHITE BIRCH
BLACK CHERRY
RED MAPLE
RED OAK
PITCH PINE
WHITE PINE

WB#
BC#
RM#
RO#
PP#
WP#

THEE LOCATION
THEE CODE
THEE DIAMETER

Roots

OLI-OFFICE/LIGHT INDUSTRIAL


ANY NON-RESIDENTIAL USE
MINIMUM AREA= 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET
SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD = 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%

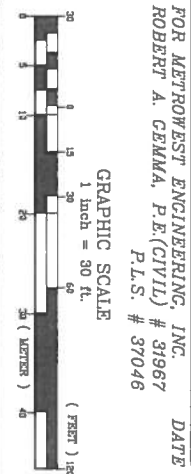
A GREAT POND - ENLARGED BY THE IRISH DAM
SEE RELEASE OF DAMAGES BOOK 271, PAGES 449 & 450

1	12/04/16	ADDRESS CON. COMM AND GRAVES ENG. COMMENTS	BTW
NO.	DATE	DESCRIPTION	BY

RECORDED IN BOOK 33023, PAGE 301.

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A. RECORD TITLE FROM BOOK 56111, PAGE 144.

EXISTING CONDITIONS SITE PLAN			
#104 CREEPER HILL ROAD			
IN			
GRAFTON, MASS			
PREPARED FOR:			
RUSSO BROTHERS INC. 250 BROADWAY FRAMINGHAM, MA 01703			
PROPERTY OF:			
104 CREEPER HILL ROAD, 104 CREEPER HILL ROAD GRAFTON, MA 01619			
ENGINEERS & SURVEYORS:			
 METROWEST ENGINEERING, INC. 76 FRANKLIN STREET GRAFTON, MA 01702 TEL.: (508)628-0063 FAX: (508)675-6440			
SHEET C100		DATE: NOVEMBER 1, 2016	
CALCD BY: BTN	FIELD BK.	CAD FILE: PROP-SP3.R1.dwg	
DRAWN BY: BTN	PROJECT: GRC-CRB	DWG FILE: SP110116_R1.dwg	

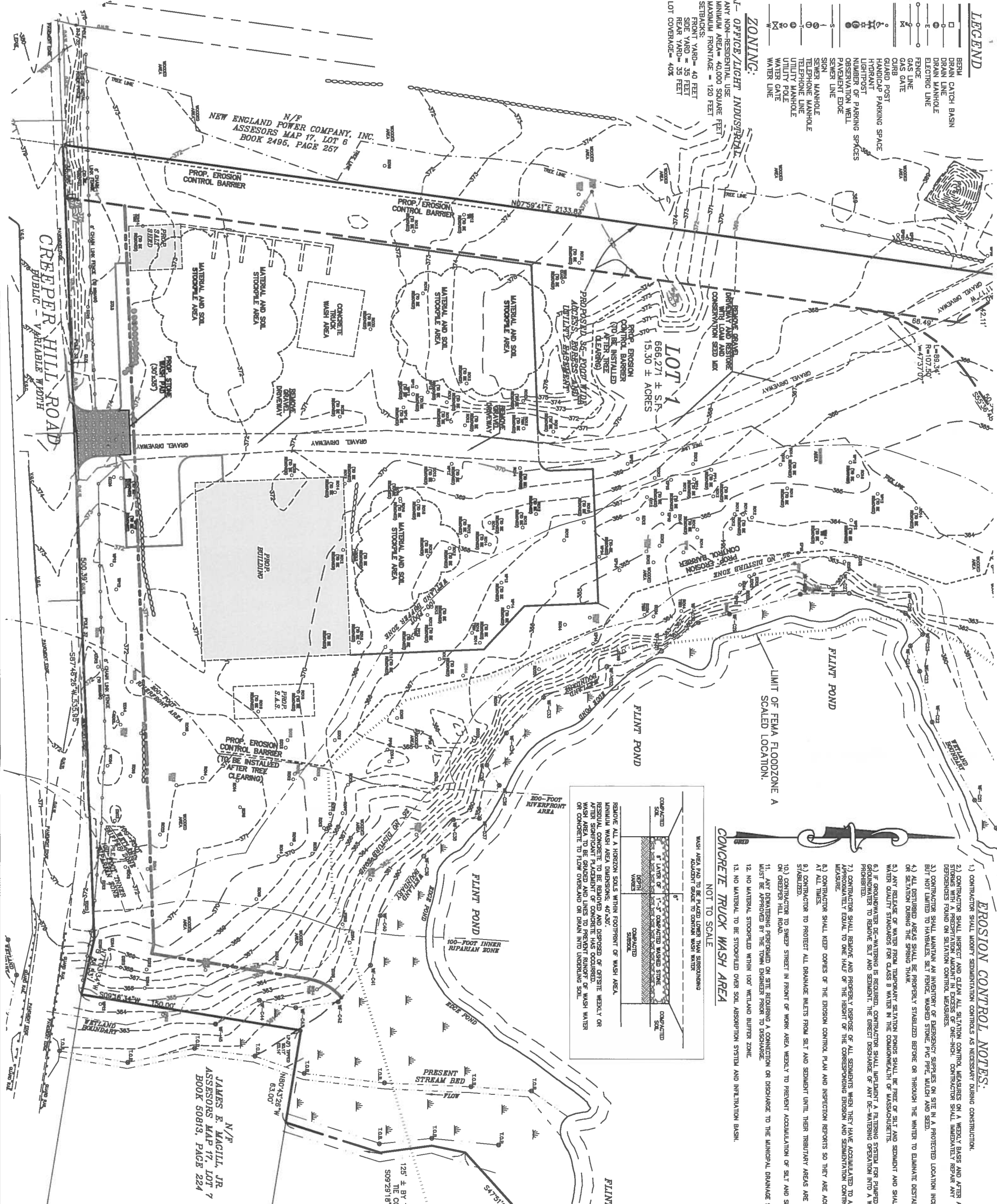


LEGEND

- BERM
- DRAIN CATCH BASIN
- DRAIN LINE
- DRAIN MANHOLE
- ELECTRIC LINE
- FENCE
- GAS LINE
- GAS GATE
- CURB
- GUARD POST
- HANDICAP PARKING SPACE
- HYDRANT
- LIGHTPOST
- NUMBER OF PARKING SPACES
- OBSERVATION WELL
- PAVEMENT EDGE
- SEWER LINE
- SEWER MANHOLE
- SEWER MANHOLE TELEPHONE LINE
- UTILITY MANHOLE
- UTILITY POLE
- WATER GATE
- WATER LINE

ZONING:

OFFICE/LIGHT INDUSTRIAL
ANY NON-RESIDENTIAL USE
MINIMUM AREA= 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET
SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD= 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%

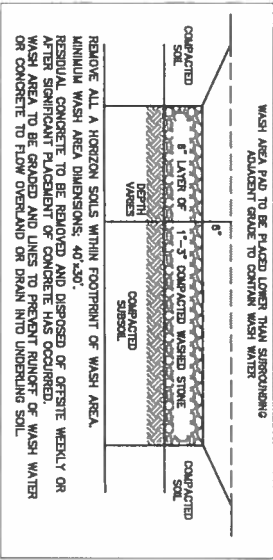


EROSION CONTROL NOTES:

- CONTRACTOR SHALL MONITOR SEDIMENTATION CONTROLS AS NECESSARY DURING CONSTRUCTION.
- CONTRACTOR SHALL INSPECT AND CLEAN ALL SILTATION CONTROL MEASURES ON A WEEKLY BASIS AND AFTER ALL STORMS WITH A PRECIPITATION AMOUNT IN EXCESS OF ONE-INCH. CONTRACTOR SHALL IMMEDIATELY REPAIR ANY DEFICIENCIES FOUND ON SILTATION CONTROL MEASURES.
- CONTRACTOR SHALL MAINTAIN AN INVENTORY OF EMERGENCY SUPPLIES ON SITE IN A PROTECTED LOCATION INCLUDING, BUT NOT LIMITED TO: HAYBALES, SILT FENCE, WASHED STONE, PICK UP MULCH AND SEED.
- ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED BEFORE OR THROUGH THE WINTER TO ELIMINATE DESTABILIZATION OR SILTATION DURING THE SPRING THAW.
- ANY RELEASE OF WATER FROM TEMPORARY SILTATION PONDS SHALL BE FREE OF SILT AND SEDIMENT AND SHALL MEET WATER QUALITY STANDARDS FOR CLASS B WATER IN THE COMMONWEALTH OF MASSACHUSETTS.
- IF GROUNDWATER DE-WATERING IS REQUIRED, CONTRACTOR SHALL IMPLEMENT A FILTERING SYSTEM FOR PUMPED GROUNDWATER TO REMOVE SILT AND SEDIMENT. THE DIRECT DISCHARGE OF ANY DE-WATERING OPERATION INTO A WETLAND IS PROHIBITED.
- CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL SEDIMENTS WHEN THEY HAVE ACCUMULATED TO A HEIGHT APPROXIMATELY EQUAL TO ONE HALF OF THE HEIGHT OF THE CORRESPONDING EROSION AND SEDIMENT CONTROL MEASURE.
- CONTRACTOR SHALL KEEP COPIES OF THE EROSION CONTROL PLAN AND INSPECTION REPORTS SO THEY ARE ACCESSIBLE AT ALL TIMES.
- CONTRACTOR TO PROTECT ALL DRAINAGE INLETS FROM SILT AND SEDIMENT UNTIL THEIR TRIBUTARY AREAS ARE FULLY STABILIZED.
- CONTRACTOR TO SWEEP STREET IN FRONT OF WORK AREA WEEKLY TO PREVENT ACCUMULATION OF SILT AND SEDIMENT ON GREENER HILL ROAD.
- ANY DEWATERING PERFORMED ON SITE REQUIRING A CONNECTION OR DISCHARGE TO THE MUNICIPAL DRAINAGE SYSTEM MUST BE APPROVED BY THE TOWN ENGINEER PRIOR TO DISCHARGE.
- NO MATERIAL STOCKPILED WITHIN 100' WETLAND BUFFER ZONE.
- NO MATERIAL TO BE STOCKPILED OVER SOIL ABSORPTION SYSTEM AND INFILTRATION BASIN.

CONCRETE TRUCK WASH AREA

NOT TO SCALE



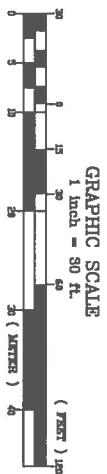
REMOVE ALL A HORIZON SOILS WITHIN FOOTPRINT OF WASH AREA.
MINIMUM WASH AREA DIMENSIONS: 40'x30'.
RESIDUAL CONCRETE TO BE REMOVED AND DISPOSED OF OFFSITE WEEKLY OR AFTER SIGNIFICANT PLACEMENT OF CONCRETE HAS OCCURRED.
WASH AREA TO BE GRADED AND LINED TO PREVENT INFILTRATION OF WASH WATER OR CONCRETE TO FLOW OVERLAND OR DOWN INTO UNDERGROUND SOIL.

NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A, RECORD TITLE FROM BOOK 56111, PAGE 144.
- UTILITY LOCATIONS DERIVED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS, OR DISGATE PAINT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UNDERGROUND UTILITY LOCATIONS, INCLUDING, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/RELOCATING/RELOCATING OR EXISTING UTILITIES NECESSARY TO ACCOMMODATE THE PROJECT ACCURATELY DEPICTED ON THIS SURVEY.
- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 2502700825E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 59025, PAGE 501.

REVISIONS

NO.	DATE	ADDRESS CON. COMM AND GRAVES ENG. COMMENTS	BY
1	12/04/16		BTW



EROSION AND SEDIMENT CONTROL PLAN

#104 CREEPER HILL ROAD
IN
GRAFTON, MASS

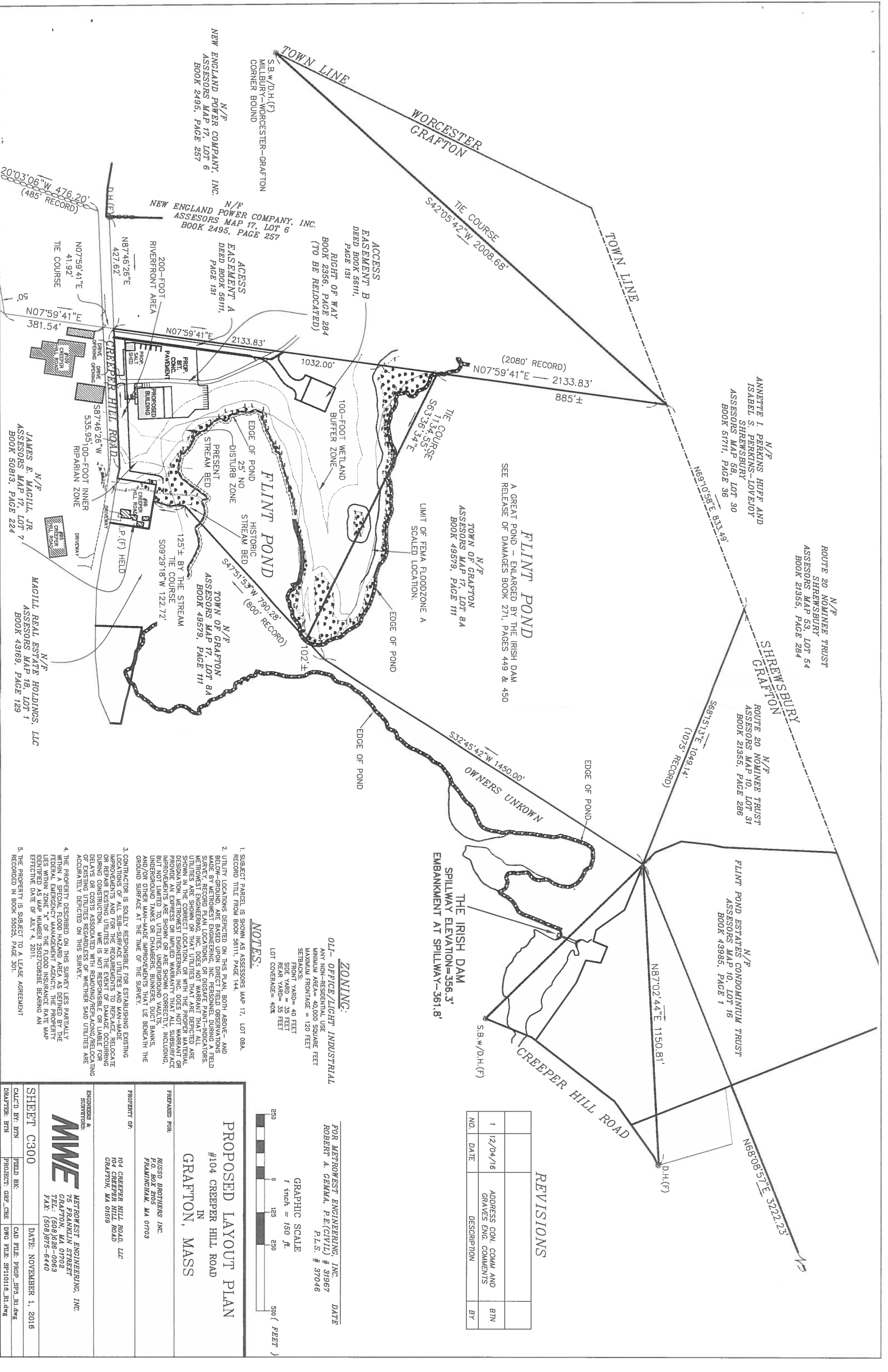
RUSCO BROTHERS INC.
P.O. BOX 806
FRAMINGHAM, MA 01703

104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01619

ENGINEER & SURVEYOR:
MWE
METROWEST ENGINEERING, INC.
76 FRANKLIN STREET
GRAFTON, MA 01702
TEL.: (508) 828-0063
FAX: (508) 876-6440

SHEET C200
DATE: NOVEMBER 1, 2018

CALCD BY: BTW	FIELD REC	CAD FILE: PROP_SPS_RI.dwg
DATE: 12/04/16	PROJECT: GPR_C200	DWG FILE: SP101016_RI.dwg



N/F
ROUTE 20 NOMINEE TRUST
SHREWSBURY
ASSESSORS MAP 53, LOT 54
BOOK 21355, PAGE 284

N/F
ANNETTE I. PERKINS HUFF AND
ISABEL S. PERKINS-LOVEJOY
SHREWSBURY
ASSESSORS MAP 58, LOT 30
BOOK 51711, PAGE 36

N/F
ROUTE 20 NOMINEE TRUST
ASSESSORS MAP 10, LOT 31
BOOK 21355, PAGE 286

N/F
FLINT POND ESTATES CONDOMINIUM TRUST
ASSESSORS MAP 10, LOT 16
BOOK 43985, PAGE 1

FLINT POND
A GREAT POND - ENLARGED BY THE IRISH DAM
SEE RELEASE OF DAMAGES BOOK 271, PAGES 449 & 450

N/F
TOWN OF GRAFTON
ASSESSORS MAP 17, LOT 8A
BOOK 49579, PAGE 111

N/F
NEW ENGLAND POWER COMPANY, INC.
ASSESSORS MAP 17, LOT 6
BOOK 2495, PAGE 257

N/F
NEW ENGLAND POWER COMPANY, INC.
ASSESSORS MAP 17, LOT 6
BOOK 2495, PAGE 257

N/F
JAMES E. MACGILL, JR.
ASSESSORS MAP 17, LOT 7
BOOK 50813, PAGE 224

N/F
MACGILL REAL ESTATE HOLDINGS, LLC
ASSESSORS MAP 18, LOT 1
BOOK 43169, PAGE 129

NOTES:

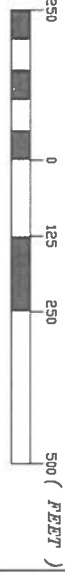
- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A, RECORD TITLE FROM BOOK 56111, PAGE 144.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY CONDUCTED BY METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD STUDY AREA AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25027C0828E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

ZONING:

01 - OFFICE/LIGHT INDUSTRIAL
ANY NON-RESIDENTIAL USE
MINIMUM AREA= 40,000 SQUARE FEET
MAXIMUM FRONTAGE= 120 FEET
SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD= 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%

REVISIONS

NO.	DATE	ADDRESS CON. COMM AND GRAVES ENG. COMMENTS	BTN
1	12/04/16		



PROPOSED LAYOUT PLAN

#104 CREEPER HILL ROAD

IN

GRAFTON, MASS

PREPARED FOR:

RUSCO BROTHERS INC.

P.O. BOX 2105

FRAMINGHAM, MA 01703

PROPERTY OF:

104 CREEPER HILL ROAD, LLC

104 CREEPER HILL ROAD

GRAFTON, MA 01519

ENGINEERS & SURVEYORS:

METROWEST ENGINEERING, INC.

75 FRANKLIN STREET

GRAFTON, MA 01702

TEL.: (508)628-0063

FAX: (508)975-6410

MWE

75 FRANKLIN STREET

GRAFTON, MA 01702

TEL.: (508)628-0063

FAX: (508)975-6410

SHEET C300

DATE: NOVEMBER 1, 2016

CALCD BY: BTN

FIELD BK:

DRAWN: BTN

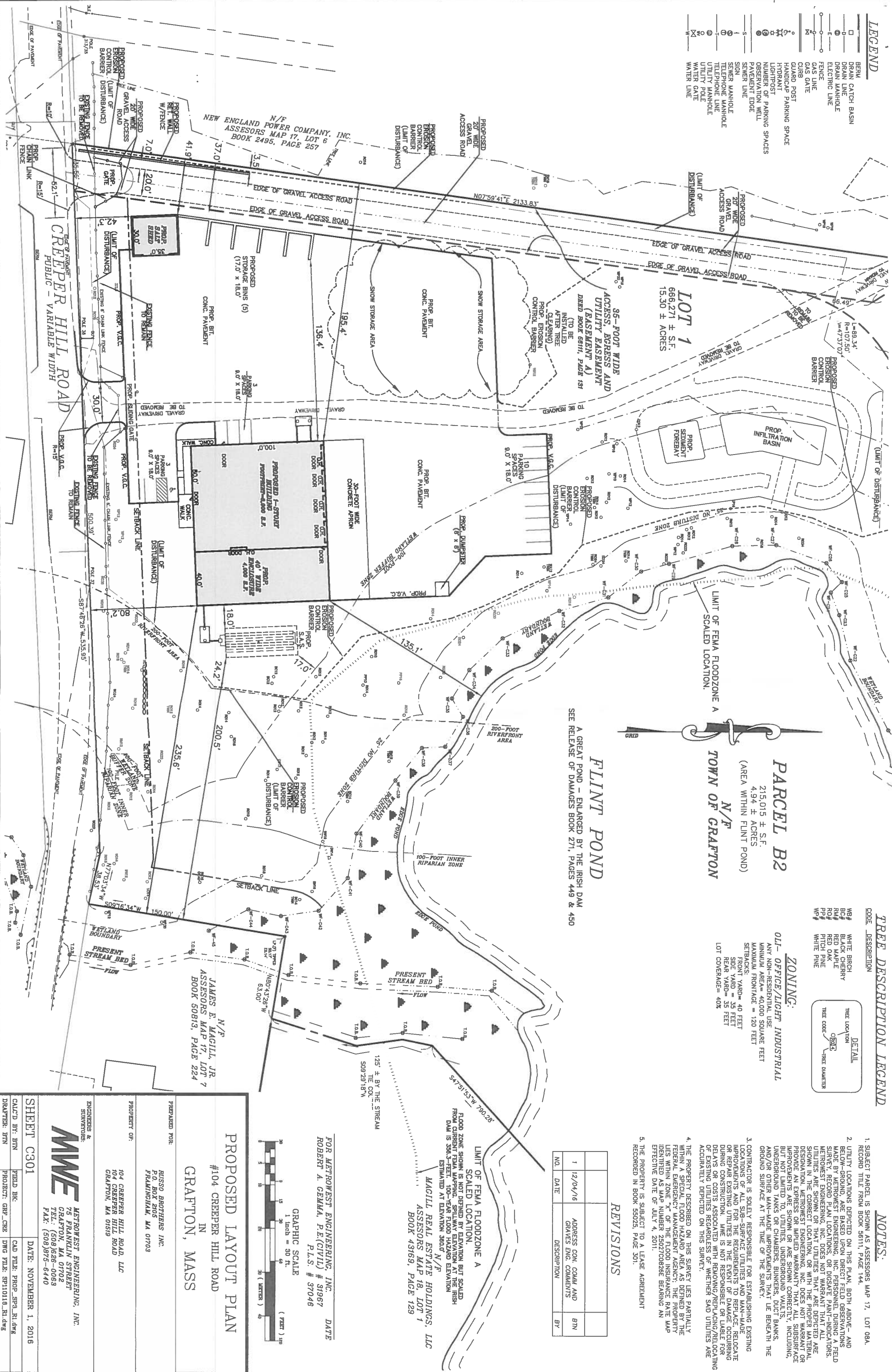
PROJECT: GRP_CBE

CAD FILE: PROP_SF3_R1.dwg

DWG FILE: SP110116_R1.dwg

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

BERM	SPRINKLER
DRAIN CATCH BASIN	STAIR
DRAIN LINE	STAIR CASE
DRAIN MANHOLE	STAIR CASE
ELECTRIC LINE	STAIR CASE
FENCE	STAIR CASE
GAS LINE	STAIR CASE
GAS GATE	STAIR CASE
CURB	STAIR CASE
GUARD POST	STAIR CASE
HANDICAP PARKING SPACE	STAIR CASE
HYDRANT	STAIR CASE
LIGHT POST	STAIR CASE
NUMBER OF PARKING SPACES	STAIR CASE
OBSERVATION WELL	STAIR CASE
PAVEMENT EDGE	STAIR CASE
SEWER LINE	STAIR CASE
SEWER MANHOLE	STAIR CASE
TELEPHONE LINE	STAIR CASE
TELEPHONE MANHOLE	STAIR CASE
UTILITY MANHOLE	STAIR CASE
UTILITY POLE	STAIR CASE
WATER GATE	STAIR CASE
WATER LINE	STAIR CASE



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WB# WHITE BIRCH
BC# BLACK CHERRY
RM# RED MAPLE
RO# RED OAK
PP# PITCH PINE
WP# WHITE PINE

DETAIL

TREE LOCATION

OR#4

TREE CODE

TREE DIAMETER

OLI-OFFICE/LIGHT INDUSTRIAL

ANY NON-RESIDENTIAL USE
MINIMUM AREA= 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET
SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD = 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%

215,015 ± S.F.
4.94 ± ACRES
(AREA WITHIN FLINT POND)

-SCALED LOCATION.

A GREAT POND - ENLARGED BY THE IRISH DAM
SEE RELEASE OF DAMAGES BOOK 271, PAGES 449 & 450

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A
RECORD TITLE FROM BOOK 56111, PAGE 144.

2. UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL, DURING A FIELD SURVEY, RECORDED FIELD LOCATIONS, OR DISCREPANCY INDICATORS. UTILITIES ARE SHOWN ON THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION, METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNNERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT Lie BE NEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MME IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
4. THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DENIED BY THE CALIFORNIA FLOOD CONTROL DISTRICT. THE PROPERTY LIES WITHIN THE "UNDESIGNATED AREA" OF THE FLOOD HAZARD IDENTIFIED AS MAP NUMBER 250027C08028E DENATING AN EFFECTIVE DATE OF JULY 4, 2011.
5. THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

NO.	DATE	DESCRIPTION	BY
1	12/04/16	ADDRESS CON. COMM AND GRAVES ENG. COMMENTS	BTM

LIMIT OF FEMA FLOODZONE A
SCALED LOCATION.

FLOOD ZONE SHOWN IS NOT DEFINED BY ELEVATION BUT SCALED FROM CURRENT FEMA MAPPING. SPILLWAY ELEVATION AT THE IRIS DAM IS 356.3- FEET. 100-YEAR FLOOD HAZARD ELEVATION

MAGILL REAL ESTATE HOLDINGS, LLC
ASSESSORS MAP 18, LOT 1
BOOK 43169, PAGE 129

FOR METROWEST ENGINEERING, INC. DATE _____
ROBERT A. GEMMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE

1 inch = 30 ft.

(FEET) 0 5 10 15 20 25 30 35 40

(METER) 0 10 20 30

PROPOSED LAYOUT PLAN

#104 CREEPER HILL ROAD
IN
GRAFTON, MASS

FOR:

RUSSO BROTHERS INC.
P.O. BOX 2105
FRAMINGHAM, MA 01703

OR:

104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
CRAFTON, MA 01519

FACTORS AFFECTING SURVIVAL

MWE METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
CRAFTON, MA 01702
TEL.: (508) 628-0063
FAX: (508) 875-6440

01

DATE: NOVEMBER 1, 2016

BTN	FIELD B
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BTN	FIELD BK	CAD FILE: PROP_SP3_R1.dwg
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ZONING:

OUT - OFFICE / LIGHT INDUSTRIAL

MINIMUM AREA - 40,000 SQUARE FEET

MINIMUM FRONTAGE - 120 FEET

SETBACKS:

FRONT YARD - 40 FEET

REAR YARD - 35 FEET

LOT COVERAGE - 40%

LEGEND

- BIRM. DRAIN CATCH BASIN
- DRAIN LINE
- DRAIN MANHOLE
- ELECTRIC LINE
- FENCE
- GAS LINE
- GRASS LAKE
- GRASS POST
- HANDICAP PARKING SPACE
- HYDRANT
- LIGHTPOST
- NUMBER OF PARKING SPACES
- OBSERVATION WELL
- PAVEMENT EDGE
- SEWER LINE
- SIGN
- SEWER MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE LINE
- UTILITY MANHOLE
- UTILITY POLE
- WATER GATE
- WATER LINE

MATCH LINE

SHEET C401
SHEET C400

TREE DESCRIPTION LEGEND

CODE	DESCRIPTION	DETAIL
WB	WHITE BIRCH	TREE LOCATION
BC	BLACK CHERRY	OVER
RM	RED MAPLE	TREE DIAMETER
RO	RED OAK	
PP	PITCH PINE	
WP	WHITE PINE	

NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A.
- RECORD TITLE FROM BOOK 5811, PAGE 144.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS OR DISAGE PLANT-INDICATORS, METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES SHOWN ARE NOT SHOWN OR ARE SHOWN IN THE WRONG LOCATION OR WITH THE PROPER EXCESS OR IMPLIED WARRANTY THAT ALL SURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VALUITS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. NWE IS NOT RESPONSIBLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DENIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE X OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25027C0025E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

N/F
NEW ENGLAND POWER COMPANY, INC.
ASSESSORS MAP 17, LOT 6
BOOK 2495, PAGE 257

LOT 1
666,271 ± S.F.
15.30 ± ACRES

PROPOSED 1-STORY
BUILDING
FOOTPRINT=8,000 S.F.
PROP. 40' WIDE
ENCLOSURE
4,000 S.F.

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GENMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE
1 inch = 80 ft.
(FEET)
(METERS)

PROPOSED GRADING PLAN
#104 CREEPER HILL ROAD
IN
GRAFTON, MASS

PREPARED FOR:
RUSCO BROTHERS INC.
P.O. BOX 8105
FRAMINGHAM, MA 01703

PROPERTY OWN:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01618

ENGINEER &
SURVEYOR:
MWE
METROWEST ENGINEERING, INC.
76 PRAMANTIN STREET
GRAFTON, MA 01703
TEL: (508)826-0068
FAX: (508)875-8440

SHEET C400
DATE: NOVEMBER 1, 2016
CALCD BY: BTM
FIELD REC.
PROJECT: GRP_C00
DWG FILE: BP101016_R1.dwg
DRAFTER: BTM

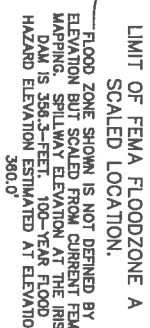
OL- OFFICE/LIGHT INDUSTRIAL

ANYNON-RESIDENTIAL USE
MINIMUM AREA = 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET
SETBACKS:
FRONT YARD = 40 FEET
SIDE YARD = 35 FEET
REAR YARD = 35 FEET
LOT COVERAGE = 40%

BERM

- | | |
|--|-------------------------|
| | DRAIN CATCH BASIN |
| | DRAIN LINE |
| | DRAIN MANHOLE |
| | ELECTRIC LINE |
| | FENCE |
| | GAS LINE |
| | GRASS |
| | GRATE |
| | CLAB |
| | GUARD POST |
| | HANDICAP PARKING SP |
| | HYDRANT |
| | LIGHT POST |
| | NUMBER OF PARKING S |
| | OBSERVATION WELL |
| | PAYMENT EDGE |
| | SEWER LINE |
| | SEWER MANHOLE |
| | SEWER TELEPHONE MANHOLE |
| | TELEPHONE LINE |
| | UTILITY MANHOLE |
| | UTILITY POLE |
| | WATER GATE |
| | WATER LINE |

BOOK 2495,



1. SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A. BEHIND THE BRONX BOOK #414 PAGE 444

2. UTILITIES UTILITIES DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY MIETROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLANT LOCATIONS, OR DISARGE PUMP INDICATORS, METHOD OF EGRESS, ETC., DOES NOT WARRANT THAT UTILITIES ARE SHOWN OR THAT UTILITIES ARE NOT SHOWN. RECORD PLANT LOCATIONS, OR DISARGE PUMP INDICATORS, METHOD OF EGRESS, ETC., DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
 3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MME IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
 4. THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD ZONING ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25020700928E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
5. THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025S, PAGE 301.

<u>CODE</u>	<u>DESCRIPTION</u>
1	1
2	2
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97	97
98	98
99	99
100	100

DETAIL

TREE LOCATION
TREE CODE
TREE DAP

WB# WHITE BIRCH
BC# BLACK CHERRY
RM# RED MAPLE
RO# RED OAK
PP# PITCH PINE

--	--	--	--

NO.	DATE	DESCRIPTION	BY
1	12/04/16	ADDRESS CON, COM# AND GRAVES ENG. COMMENTS	BTH

#104 CREEPER HILL ROAD

GRAFTON, MASS

PROPERTY OF:
RUSO BROTHERS INC.
P.O. BOX 2106
FALMOUTH, MA 01703

**ENGINEERS &
ARCHITECTS**

MWE
METROWEST ENGINEERING, INC.
76 FRANKLIN STREET
GRAFTON, MA 01702
TEL: (608)828-0063
FAX: (608)825-8440

[illegible]

SHEET C401		DATE: NO
CALC'D BY: BTM	FIELD BK:	CAD FILE: P
DRAWN BY: BTM	PROJECT: GRP_CRE	DWG FILE: S

ZONING:

OIL - OFFICE / LIGHT INDUSTRIAL
ANY NON-RESIDENTIAL USE
MINIMUM AREA - 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET
SETBACKS: YARD - 40 FEET
SIDE YARD - 35 FEET
REAR YARD - 35 FEET
LOT COVERAGE - 40%

LEGEND

- BEM. BERM
- DR. DRAIN LINE
- DM. DRAIN MANHOLE
- E. ELECTRIC LINE
- GL. GAS LINE
- CL. CABLE
- CH. CHAIR POST
- HC. HANDICAP PARKING SPACE
- HD. HYDRANT
- LP. LIGHT POST
- NP. NUMBER OF PARKING SPACES
- OW. OBSERVATION WELL
- PL. PAVEMENT EDGE
- SL. SEWER LINE
- SM. SEWER MANHOLE
- TL. TELEPHONE LINE
- UM. UTILITY MANHOLE
- UP. UTILITY POLE
- WG. WATER GATE
- WL. WATER LINE

TREE DESCRIPTION LEGEND

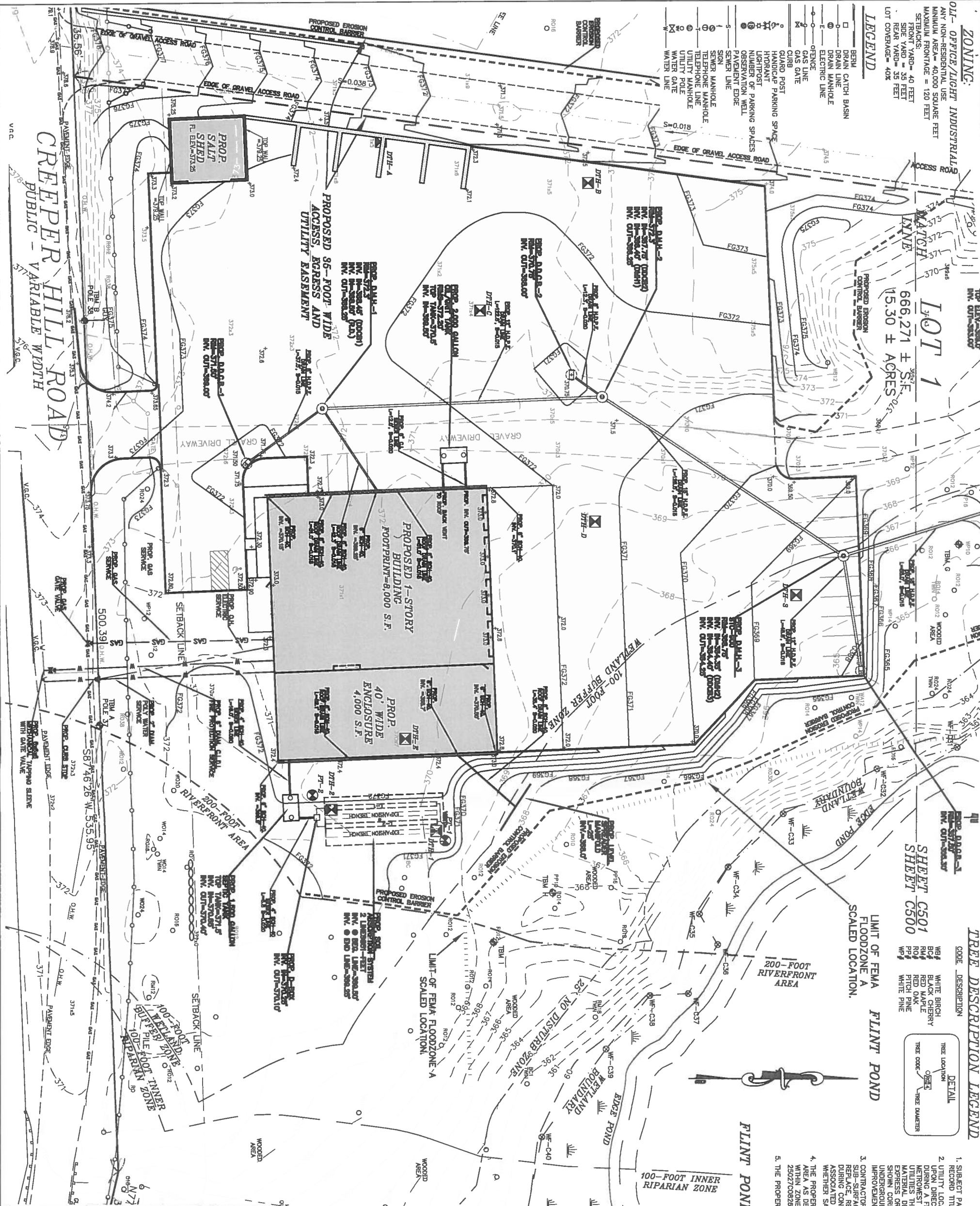
CODE	DESCRIPTION	DETAIL
WB	WHITE BIRCH	TREE LOCATION
BC	BLACK CHERRY	TREE CODE
RM	RED MAPLE	TREE DIAMETER
PO	PITCH PINE	
WP	WHITE PINE	

NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 00A.
- RECORD TITLE FROM BOOK 58111, PAGE 144.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY, RECORD PLAIN LOCATIONS, OR DISSEAL PLAIN-INDICATORS, OR THAT UTILITIES ARE SHOWN IN THE CORRECT LOCATION OR DEPTH, BUT THE PROPER MATERIAL, DESIGNATION, METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VALUITS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 2502700828E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

REVISIONS

NO.	DATE	ADDRESS CON. COMM AND GRAVES ENG. COMMENTS	BY
1	12/04/16		BTN



FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GENMA, P.E.(CIVIL) # 31967
P.L.S. # 37046

PROPOSED SITE PLAN
#104 CREEPER HILL ROAD
IN
GRAFTON, MASS

PREPARED FOR:
RUSSO BROTHERS INC.
P.O. BOX 2106
FRANKINGHAM, MA 01703

PROJECT OF:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01519

ENGINEERS & SURVEYORS:
MWE METROWEST ENGINEERING, INC.
76 FRANKLIN STREET
GRAFTON, MA 01702
TEL.: (508) 828-0063
FAX: (508) 876-6410

SHEET C500
DATE: OCTOBER 24, 2016
CALCD BY: BTN
PROJECT: GEP CRE
DRAWN BY: BTN
PROJECT: GEP CRE
DATE: OCTOBER 24, 2016

ZONING:

OUT - OFFICE / LIGHT INDUSTRIAL

ANY NON-RESIDENTIAL USE

MINIMUM AREA = 40,000 SQUARE FEET

MINIMUM FRONTAGE = 120 FEET

SETBACKS:

FRONT YARD - 40 FEET

SIDE YARD - 35 FEET

REAR YARD - 35 FEET

LOT COVERAGE = 40%

LEGEND

- BERM
- DRAIN CATCH BASIN
- DRAIN LINE
- DRAIN MANHOLE
- ELECTRIC LINE
- FENCE LINE
- GAS LINE
- GAS VALVE
- GRASS
- GRASS POST
- HANDICAP PARKING SPACE
- HYDRANT
- LIGHTPOST
- NUMBER OF PARKING SPACES
- OBSERVATION WELL
- PAVEMENT EDGE
- SEWER LINE
- SIGN
- SEWER MANHOLE
- TELEPHONE MANHOLE
- UTILITY MANHOLE
- UTILITY POLE
- WATER GATE
- WATER LINE

TREE DESCRIPTION LEGEND

CODE	DESCRIPTION	DETAIL
WB	WHITE BIRCH	TREE LOCATION
BC	BLACK BIRCH	DETAIL
CH	RED CHERRY	DETAIL
RM	RED MAPLE	DETAIL
RO	RED OAK	DETAIL
PP	PITCH PINE	DETAIL
WP	WHITE PINE	DETAIL

NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A.
- RECORD TITLE FROM BOOK 5811, PAGE 144.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY. RECORD PLAN LOCATIONS OR DISPLACE PLANT-INDICATORS, OR THAT METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT MATERIAL DESIGNATION, METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
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- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DERIVED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP DEDICATED AS MAP NUMBER 2002700020E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

PROPOSED PLANTING SCHEDULE

STREET TREES

SYMBOL	SPECIES	QUANTITY	SIZE
(7)	GREEN ASH (FRAXINUS PENNSYLVANICA)	4	2.5" CALIPER
(8)	PIN OAK (QUERCUS PALAISTRUS)	6	2.5" CALIPER
(9)	SUGAR MAPLE (ACER SACHARINUM)	2	2.5" CALIPER

SHRUBS

SYMBOL	SPECIES	QUANTITY	SIZE
(4)	DOGWOODS (CORNUS AMOMUM)	12	6" HIGH
(6)	INKBERRY (ILEX GLABRA)	12	6" HIGH

WETLAND BUFFER ZONE PLANTINGS

SYMBOL	SPECIES	QUANTITY	SIZE
(14)	WITCH HAZEL (HAMAMELIS VIRGINIANA)	8	6" HIGH
(15)	HIGH BUSH CRANBERRY (VIBURNUM TRILOBUM)	8	6" HIGH

REVISIONS

NO.	DATE	ADDRESS ENG. COMMENT AND DESCRIPTION	BY
1	12/04/16	ADDRESS ENG. COMMENT AND DESCRIPTION	BTW

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GENNA, P.E.(CIVIL) # 31967
P.L.S. # 37046

GRAPHIC SCALE



PROPOSED LANDSCAPING PLAN
#104 CREEPER HILL ROAD
IN
GRAFTON, MASS

PREPARED FOR:
RUSO BROTHERS INC.
P.O. BOX 2106
FALMOUTH, MA 01705

PROPERTY OWN:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01619

ENGINEER & SURVEYOR:
MWE METROWEST ENGINEERING, INC.
76 PLANTAIN STREET
GRAFTON, MA 01705
TEL: (508)828-0083
FAX: (508)875-8440

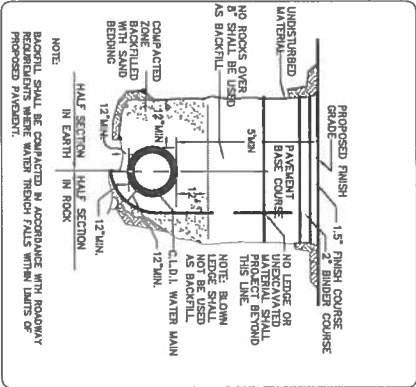
SHEET C600 DATE: NOVEMBER 1, 2016

CALCD BY: BTW FIELD REC CAD FILE: PROP_SPS_RL.dwg
DRAFTER: BTW PROJECT: GRP_C60 DWG FILE: SP101016_RL.dwg



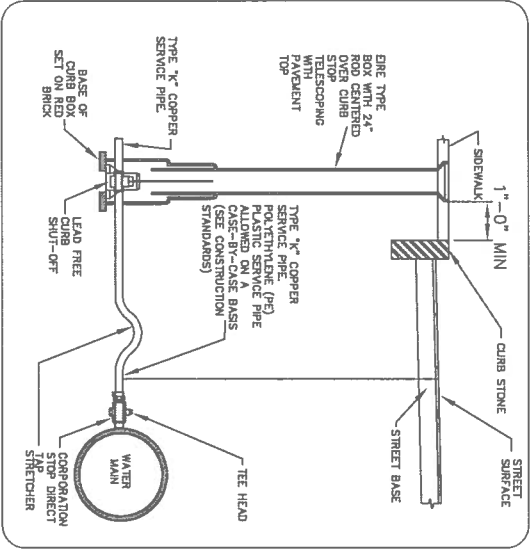
WATER MAIN TRENCH DETAIL

NOT TO SCALE



TYPICAL WATER SERVICE CONNECTION

NOT TO SCALE

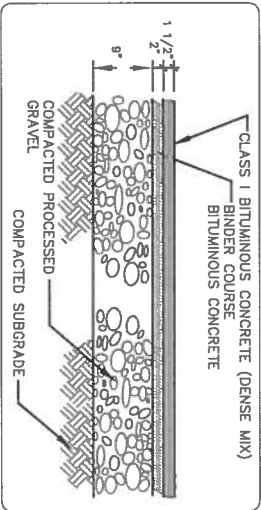


UTILITY NOTES

- 1) ALL WORK MUST BE INSPECTED BY A DEPARTMENT OF PUBLIC WORKS UTILITY INSPECTOR. TO SCHEDULE A PRE-CONSTRUCTION MEETING OR INSPECTION CALL GRAFTON D.P.W. 48-HOURS PRIOR TO THE START OF WORK.
- 2) ANY PROPOSED SURFACE OPENINGS AND EXCAVATION WORK WITHIN THE TOWN RIGHT OF WAY LIMITS WILL REQUIRE A STREET OPENING PERMIT (SOP) FROM THE WORK CONDUCTED UNDER SAID PERMIT BEING PERFORMED IN COMPLIANCE WITH THE TOWN OF GRAFTON SOP POLICY.
- 3) ALL DRAINAGE, WATER AND SEWER WORK (OUTSIDE OF THE BUILDING FOOTPRINT) SHALL BE PERFORMED BY A LICENSED GRAFTON DRAINLAYER.
- 4) A TRENCH OPENING PERMIT (TOP) SHALL BE OBTAINED PRIOR TO THE EXCAVATION OF ANY TRENCH. A TRENCH IS DEFINED UNDER M.G.L. 82A AND 82C CHAPTER 40A AS ANY EXCAVATION GREATER THAN THREE-FEET IN DEPTH AND LESS THAN 15- FEET BETWEEN SOIL WALLS AS MEASURED FROM THE BOTTOM.
- 5) ALL PROPOSED UTILITY SERVICE WORK SHALL COMPLY WITH THE TOWN OF GRAFTON D.P.W. CONSTRUCTION STANDARDS.
- 6) CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND FOR OBTAINING ALL NECESSARY PERMITS FOR EXCAVATION WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR UNABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES.

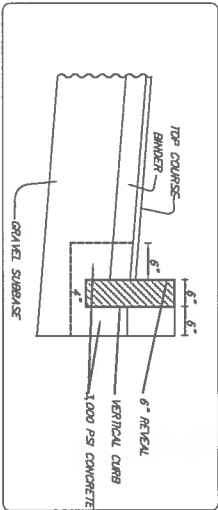
BITUMINOUS CONCRETE PAVEMENT

NOT TO SCALE



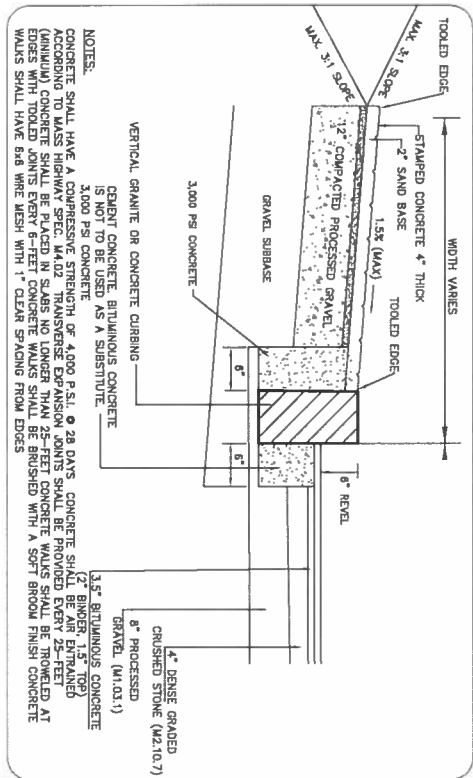
VERTICAL GRANITE AND CONCRETE CURB

NOT TO SCALE



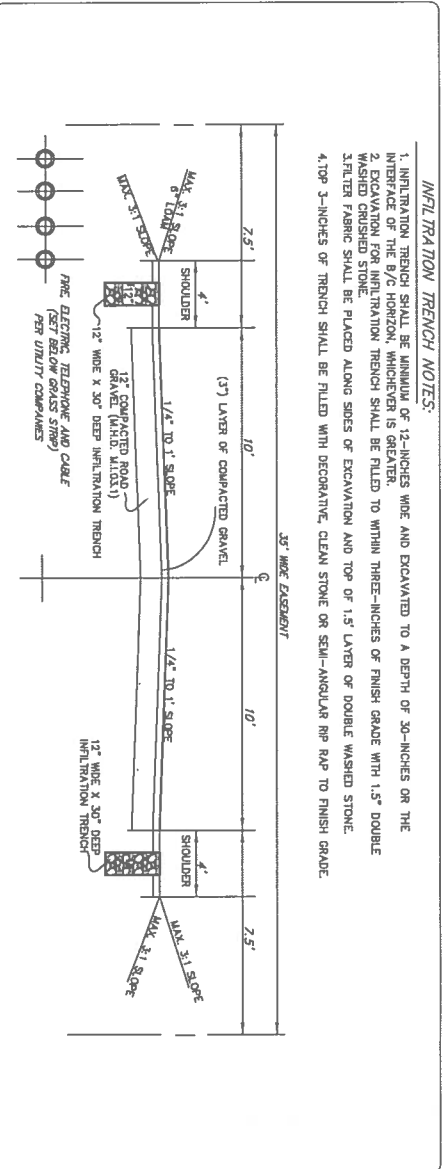
VERTICAL GRANITE CURB & CONCRETE SIDEWALK DETAIL

NOT TO SCALE



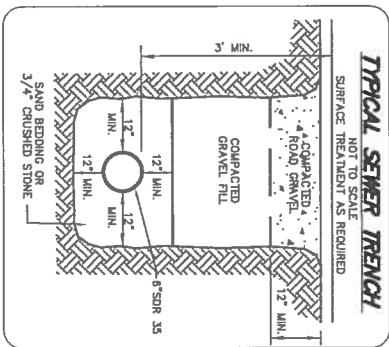
TYPICAL EASEMENT ACCESS DRIVE CROSS SECTION

NOT TO SCALE



OIL & GAS SEPARATOR

NOT TO SCALE

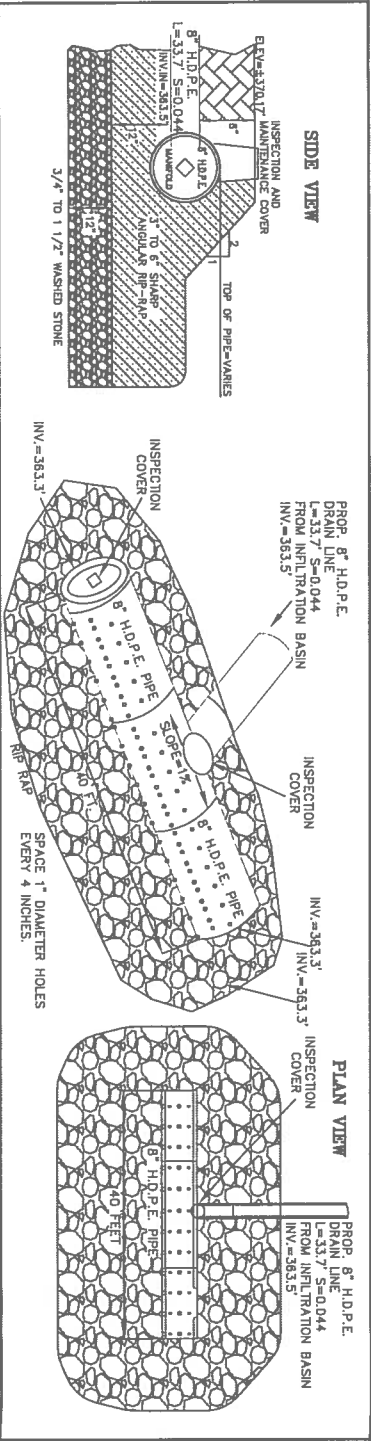


- NOTE :
1. CONCRETE : 4,000 PSI MINIMUM AFTER 28 DAYS.
 2. TANK TO HAVE STORAGE CAPACITY OF 2,000 GALLONS.
 3. BUTYL RESIN SECTION JOINT CONFORMS TO LATEST ASTM C413 SPEC.
 4. STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEP CONFORM TO LATEST ASTM C478 SPEC.
 5. PIPE NOT SUPPLIED.
 6. O CONE SECTION AVAILABLE IN 4'-0" TO 10' ONLY.
 7. FOR INLETS LARGER THAN 10" THE DESIGN & DIMENSION WILL BE DETERMINED FOR EACH PARTICULAR CASE.

SECTION VIEW					
INLET	O	A	B	W	
6"	5'-0"	3'-0"	3'-0"	6"	

LEVEL SPREADER FLOW MANIFOLD DETAIL

NOT TO SCALE



PAVEMENT AND BASE MATERIALS AND INSTALLATION

- 1) ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2) BITUMINOUS PAVING SHALL NOT BE PLACED WHEN AMBIENT TEMPERATURE IS BELOW 40- DEGREES FAHRENHEIT, OR WHEN THERE IS FROST IN THE BASE, OR WHEN WEATHER CONDITIONS ARE UNSUITABLE IN ANY WAY.
- 3) CONTRACTOR SHALL SAWCUT ALL EXISTING TRENCHES AND EXCAVATIONS WHEN LOCATED WITHIN LIMITS OF EXISTING PAVEMENT. PAVEMENT BREAKER MAY BE USED FOR INITIAL EXCAVATION AND A SAWCUT MAY BE EMPLOYED TO PROVIDE NEATER CUT FOR TRENCH PRIOR TO PLACEMENT OF NEW PAVEMENT.
- 4) SAWCUTS SHALL EXTEND COMPLETELY THROUGH BINDER AND TOP COURSE LAYERS.
- 5) PAVEMENT EDGES SHALL BE TRIMMED AND CLEANED FOR A NEAT VERTICAL FACE FREE OF LOOSE MATERIALS AND DENTS.
- 6) CONTRACTOR SHALL EXERCISE CARE TO PREVENT OR MINIMIZE DAMAGE TO EXISTING PAVEMENT SURROUNDING EXCAVATION WORK.
- 7) BACKFILL IN TRENCHES SHALL BE IN ACCORDANCE WITH SPECIFIC UTILITY TRENCH REQUIREMENTS. BACKFILL MATERIAL IN TRENCHES SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 12-INCH LIFTS AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO DESIGNATION 199 COMPACTION TEST METHODS.
- 8) BROKEN PAVEMENT, LARGE STONES, ROOTS AND OTHER DEBRIS SHALL NOT BE USED IN TRENCH BACKFILL.
- 9) PERMANENT PAVEMENT SHALL CONSIST OF A TOP COURSE LAYER OF NOT LESS THAN TWO-INCHES (2") AND A BINDER COURSE LAYER OF NOT LESS THAN THREE-INCHES (3") AFTER COMPACTION. PAVEMENT SHALL BE MIXED IN ACCORDANCE WITH MASSDOT SPECIFICATION SECTION M2.11.03 (TABLE A).
- 10) PAVEMENT SHALL BE COMPACTED AND ROLLED BY AN OSCILLATING ROLLER WITH A WEIGHT OF NOT LESS THAN 10-TONS. ROLLER SHALL MAKE AT LEAST FOUR PASSES OVER ALL NEWLY PLACED PAVEMENT.
- 11) ROLLER SHALL NOT EXCEED A SPEED OF 3 MILES PER HOUR DURING ROLLING OPERATIONS TO ENSURE PROPER COMPACTION. ANY RIDGES, INDENTATIONS SHALL BE ROLLED ADDITIONALLY UNTIL THEY ARE REMOVED.
- 12) GRAVEL BASE MATERIAL SHALL CONSIST OF A LAYER OF EITHER DENSE GRADE CRUSHED STONE COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION M2.01.17 OR GRAVEL BORROW COMPLYING WITH REQUIREMENTS OF MASSDOT SECTION M1.03.0.
- 13) BASE MATERIALS SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT-INCHES (8") AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION 199.
- 14) SUITABLE SUBBASE MATERIALS SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION 199.
- 15) UNSUITABLE SUBBASE MATERIAL SHALL BE REMOVED AND REPLACED WITH MATERIAL IN CONFORMANCE WITH MASSDOT SPECIFICATION M1.02.0. SPECIAL BORROW OR SPECIFICATION M.2.01.0 FOR GRAVEL BORROW.
- 16) SUPPORTED SUBBASE MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING TWELVE-INCHES AND COMPACTED IN TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO SPECIFICATION 199.

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	12/04/16	ADDRESS CON. COMM AND GRAVES ENG. COMMENTS	BTN

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E. # 31967 (CIVIL)

DETAILS PLAN
#104 CREEPER HILL ROAD
IN
GRAFTON, MASS

PREPARED FOR:

RUSCO BROTHERS INC.
P.O. BOX 2005
FRAMINGHAM, MA 01703

PROPERTY OF:

104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01519

ENGINEERS & SURVEYORS:

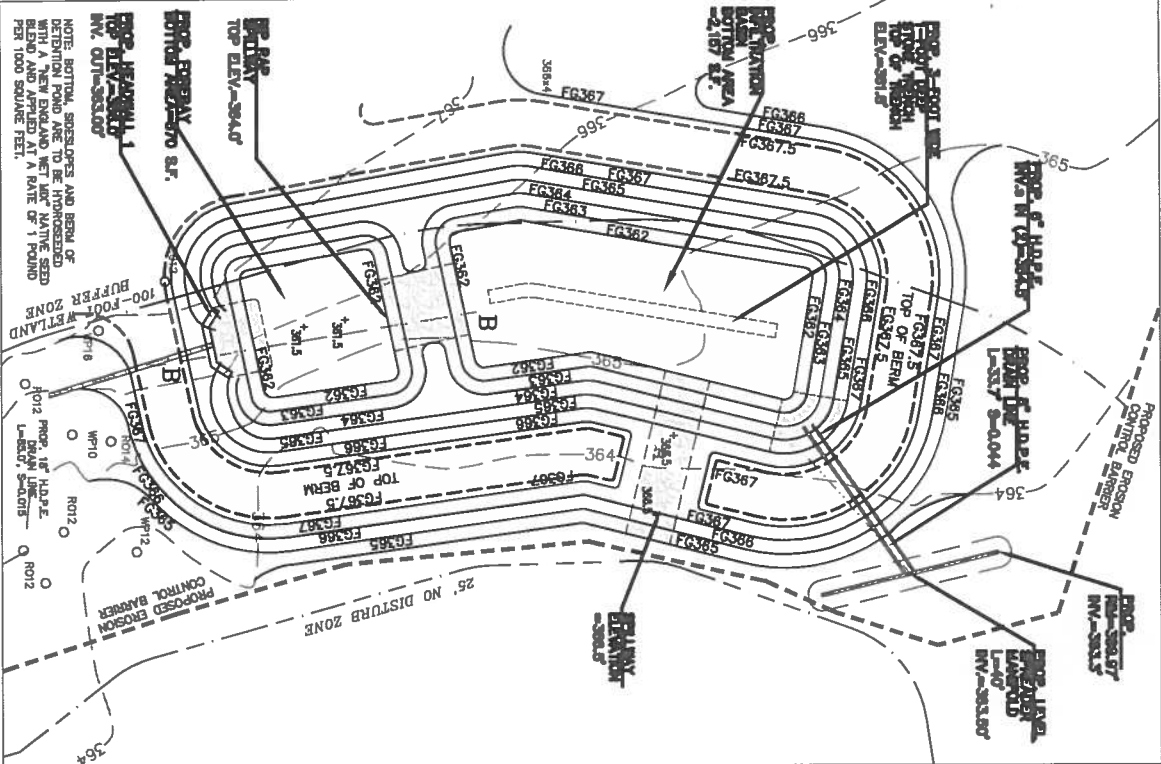
METROWEST ENGINEERING, INC.
75 FRANKLIN STREET
GRAFTON, MA 01702
TEL.: (508) 626-0063
FAX: (508) 875-6440

SHEET C700

DRAWN BY: BTN FIELD BK DATE: NOVEMBER 1, 2016
PROJECT: GRF_CRE CAD FILE: PROP_SF3_R1.dwg
DWG FILE: SP110116_R1.dwg

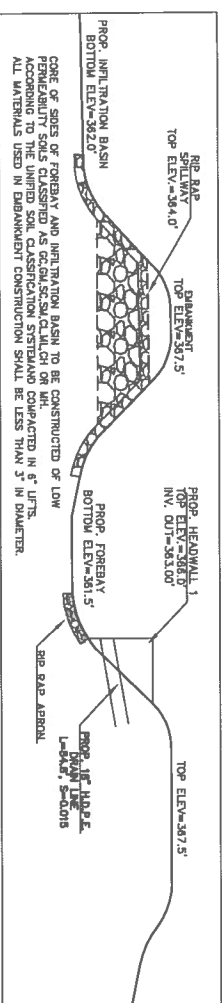
SEDIMENT FOREBAY AND INFILTRATION BASIN DETAIL

SCALE: 1"=20'



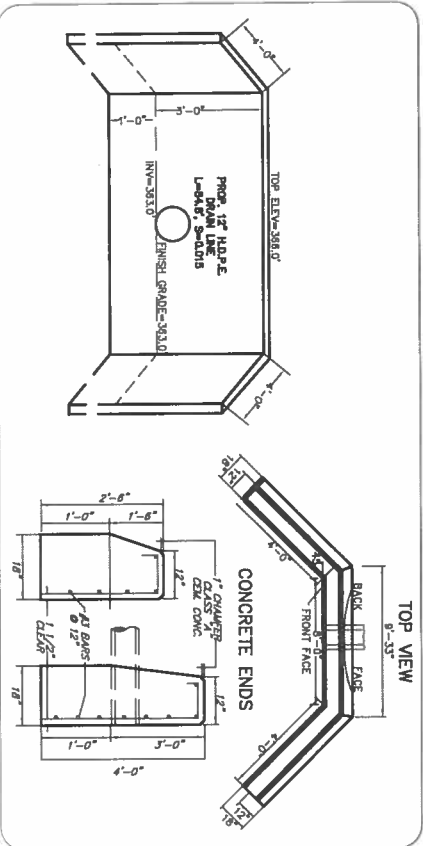
SEDIMENT FOREBAY PROFILE B-B

NOT TO SCALE



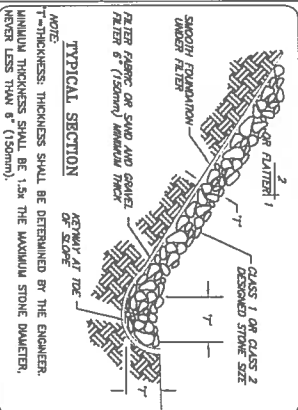
CONCRETE HEADWALL-1 DETAIL

NOT TO SCALE



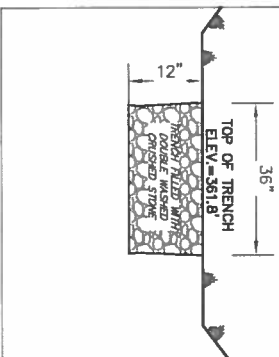
RIP RAP PROTECTION AT POND INLET AND SPILLWAY

NOT TO SCALE



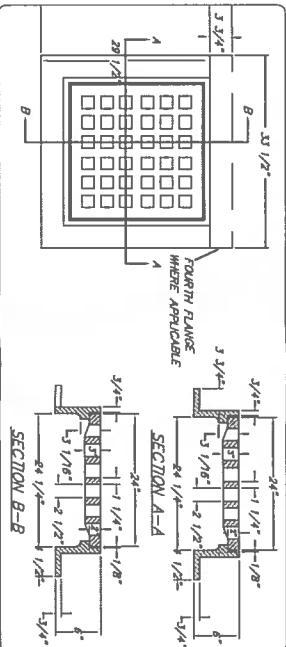
INFILTRATION BASIN STONE TRENCH

NOT TO SCALE



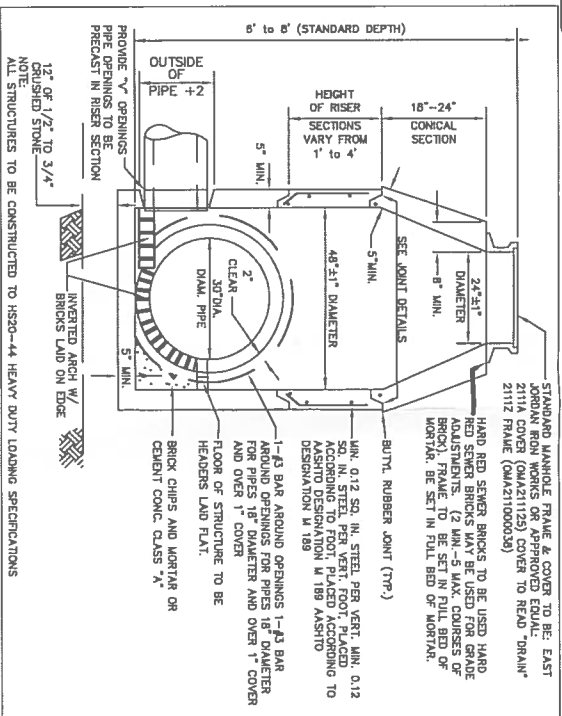
SQUARE CATCH BASIN FRAME & GRADE

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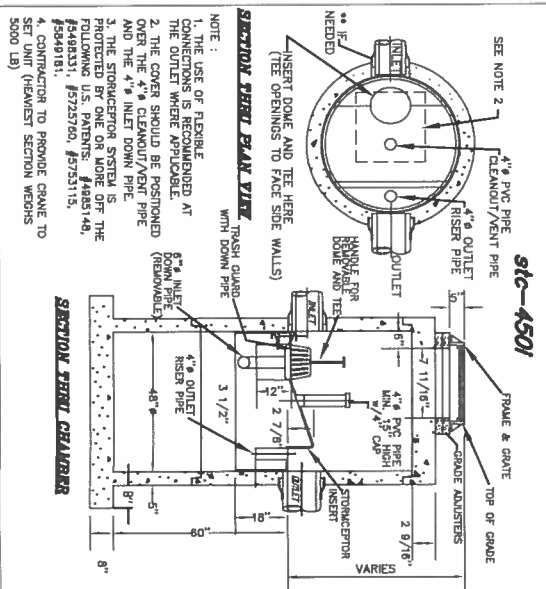
PRECAST CONCRETE MANHOLE

NOT TO SCALE



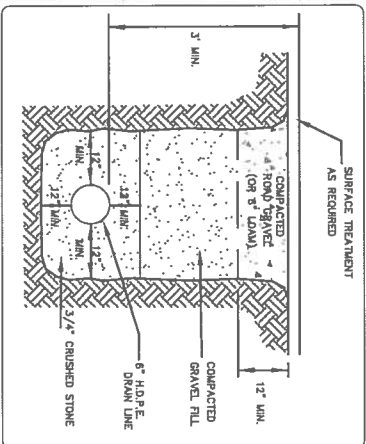
STORMCEPTOR

NOT TO SCALE



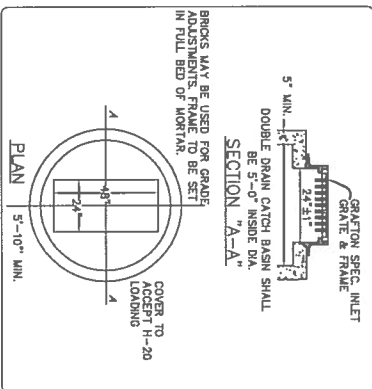
TYPICAL DRAIN LINE TRENCH

NOT TO SCALE



DOUBLE GRADE CATCH BASIN TOP

NOT TO SCALE



DRAINAGE MATERIALS NOTES:

PRECAST CONCRETE DRAIN MANHOLE MATERIALS AND INSTALLATION

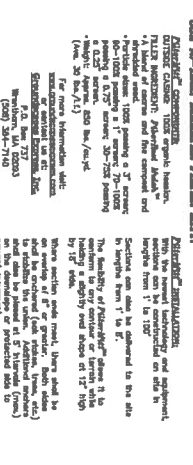
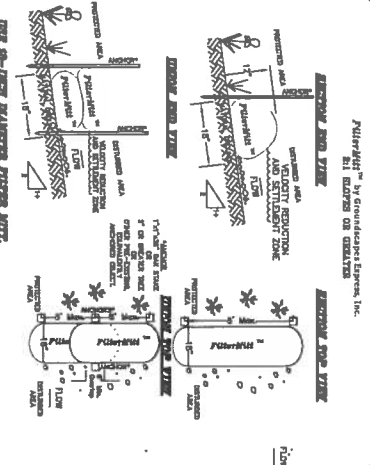
- 1) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS, THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2) STORMCEPTOR UNITS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
- 3) FILTER FABRIC SHALL BE 1600 LBS (TENSILE INDENTERS) OR APPROVED EQUAL.
- 4) MANHOLES SHALL BE CONSTRUCTION OF REINFORCED PRECAST CONCRETE BASE SECTION, BARREL SECTION AND DOME SECTION. ALL SECTIONS SHALL BE 24" DIA. (TENSILE INDENTERS) OR APPROVED EQUAL.
- 5) IN CASES WHERE VERTICAL TOLERANCE DOES NOT PERMIT A CONE TOP SECTION, A PRECAST CONCRETE FLAT SECTION MAY BE USED.
- 6) MANHOLES SHALL HAVE A MINIMUM INSIDE DIAMETER OF 24" (TENSILE INDENTERS) OR APPROVED EQUAL.
- 7) MANHOLES SHALL HAVE TONGUE AND GROOVE JOINTS BETWEEN SECTIONS THAT ARE MORTARED OR SEALED WITH BUTYL RUBBER SEALANTS.
- 8) PIPE INLETS AND OUTLETS SHALL BE SEALED WITH MORTAR OR RUBBER SEALANTS OR BOOT TYPE CONNECTIONS. MANHOLES SHALL BE PLACED ON A LAYER OF COMPACTED, LEVEL, BEDDING MATERIAL NOT LESS THAN 6" (TENSILE INDENTERS) OR APPROVED EQUAL.
- 9) EXCAVATION AROUND THE MANHOLE STRUCTURES SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH (12") LIFTS WITH SUITABLE MATERIALS.
- 10) ROAD BASE MATERIAL AND PAVEMENT PREPARATION MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
- 11) MANHOLE ACCESS FRAME AND COVER SHALL CONSIST OF EAST JORDAN IRONWORKS 2111/21112 FRAME AND COVER.
- 12) ROAD BASE MATERIAL AND PAVEMENT PREPARATION MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
- 13) MANHOLE ACCESS FRAME AND COVER SHALL CONSIST OF EAST JORDAN IRONWORKS 2111/21112 FRAME AND COVER.
- 14) FRAME AND COVERS SHALL BE ADJUSTED TO FINISH GRADE USING LAYERS OF MORTAR AND BRICK.
- 15) FRAME AND COVERS SHALL MEET ASTM A888 AND/ORE FROM CLASS 20, GREY CAST IRON.

PRECAST CONCRETE DRAIN CATCH BASIN MATERIALS AND INSTALLATION

- 1) ALL MATERIALS ASSOCIATED SHALL BE IN ACCORDANCE WITH THE DESIGN PLANS, THE TOWN OF GRAFTON DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS.
- 2) ALL CATCH BASINS SHALL HAVE A SUMP OF AT LEAST FOUR-FOOT (48-INCHES) BELOW THE INVERT OF THE OUTLET PIPE AND SHALL HAVE A HOOD ON OUTLET PIPES.
- 3) CATCH BASIN HOODS SHALL EXTEND AT LEAST ONE-FOOT BELOW THE INVERT OF THE OUTLET PIPE.
- 4) CATCH BASINS SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE BASE SECTION, BARREL SECTION AND DOME SECTION MEETING THE REQUIREMENTS OF ASTM C798 AND ASHTO M199. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 P.S.I. (TENSILE INDENTERS) OR APPROVED EQUAL.
- 5) CATCH BASINS SHALL HAVE A MINIMUM INSIDE DIAMETER OF 24" (TENSILE INDENTERS) OR APPROVED EQUAL.
- 6) CATCH BASINS SHALL HAVE A MINIMUM OPENING OF 28-INCHES AND A MINIMUM INSIDE DIAMETER OF FOUR-FOOT (4').
- 7) CATCH BASINS SHALL HAVE TONGUE AND GROOVE JOINTS BETWEEN SECTIONS THAT ARE MORTARED OR SEALED WITH BUTYL RUBBER SEALANTS.
- 8) PIPE INLETS AND OUTLETS SHALL BE SEALED WITH MORTAR OR RUBBER SEALANTS OR BOOT TYPE CONNECTIONS.
- 9) DRAIN MANHOLES SHALL BE PLACED ON A LAYER OF COMPACTED, LEVEL, BEDDING MATERIAL NOT LESS THAN SIX-INCHES IN HEIGHT SHALL BE CAREFULLY PLACED SO THAT ALL SECTIONS ARE LEVEL AND PLUMB.
- 10) CATCH BASIN SECTIONS SHALL BE CAREFULLY PLACED SO THAT ALL SECTIONS ARE LEVEL AND PLUMB. THE TRENCH (12") LIFTS WITH SUITABLE MATERIALS.
- 11) ROAD BASE MATERIAL AND PAVEMENT PREPARATION MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
- 12) ROAD BASE MATERIAL AND PAVEMENT PREPARATION MATERIALS SHALL BE INSTALLED AROUND STRUCTURES IN ACCORDANCE WITH BASE AND PAVEMENT PREPARATION INSTRUCTIONS.
- 13) MANHOLE ACCESS FRAME AND COVER SHALL CONSIST OF EAST JORDAN IRONWORKS 2111/21112 FRAME AND COVER SHALL BE ADJUSTED TO FINISH GRADE USING LAYERS OF MORTAR AND BRICK.
- 14) FRAME AND COVERS SHALL MEET ASTM A888 AND/ORE FROM CLASS 20, GREY CAST IRON.

EROSION CONTROL BARRIER

NOT TO SCALE



R.R.P. DRAIN PIPE MATERIALS AND INSTALLATION

- 1) ALL PIPE SHALL CONFORM TO MASSDOT SECTION 45.010.
- 2) PIPE SHALL BE SMOOTH INTERIOR WALL AND CORRUGATED EXTERIOR WALL AND SHALL BE BELL AND GASKET JOINTS WITH REINFORCING AND MARKINGS FOUND IN ASHTO DESIGNATIONS 4222 AND 4224.
- 3) PIPE SHALL SUPPORT AN HS-20 LIVE LOAD WITH A MAXIMUM DEFLECTION OF 5% OF THE PIPE DIAMETER.
- 4) ALL PIPE AND FITTINGS SHALL BE MADE FROM HIGH POLYETHYLENE COMPOUNDS WHICH SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM D2712.
- 5) ALL PIPE SHALL BE BELL AND SPIGOT WITH ELASTOMERIC RUBBER GASKETS MEETING OR EXCEEDING ASTM 4477.
- 6) EXCAVATION AROUND PIPE TO A DEPTH OF TWELVE-INCHES ABOVE THE TOP OF PIPE.
- 7) MATERIAL FOR BACKFILLING THE REMAINDER OF THE TRENCH, PAVEMENT AND PAVEMENT SUBGRADE SHALL BE BACKFILLED AND COMPACTED IN TWELVE-INCH LIFTS WITH SUITABLE MATERIAL WITH NO STONES GREATER THAN FOUR-INCHES IN DIAMETER. MATERIAL SHOULD BE FREE OF ORGANIC MATERIALS AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY.
- 8) TRENCH SHALL BE FINISHED WITH PAVEMENT STRUCTURE IN PAVED AREAS.
- 9) PREPARED IN ACCORDANCE WITH PAVEMENT STRUCTURE IN PAVED AREAS.

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	12/04/16	ADDRESS CON. COMM. AND GRAVES ENG. COMMENTS	BTN

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.E. # 31967 (CIVIL)

DETAILS PLAN
IN
GRAFTON, MASS

PREPARED FOR:
RUSSO BROTHERS INC.
P.O. BOX 2105
FRAMINGHAM, MA 01703

PROPERTY OF:
104 CREEPER HILL ROAD, LLC
104 CREEPER HILL ROAD
GRAFTON, MA 01519

ENGINEERS & SURVEYORS:
METROWEST ENGINEERING, INC.

75 FRANKLIN STREET
GRAFTON, MA 01702
TEL: (508)626-0063
FAX: (508)875-6440

SHEET C701
DATE: NOVEMBER 1, 2016
CAL'D BY: BTN
PROJECT: GRT. CRK
DRAFTER: BTN
DATE: NOVEMBER 1, 2016
CAD FILE: PROJ-SP3_R1.dwg
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